

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A detector device comprising at least a field-distorter, ~~responsive to an input signal, for influencing at least one characteristic of comprising a~~ semiconductor device and a conductor, disposed adjacent to the semiconductor device, for carrying a first electro-magnetic signal; ~~the semiconductor device being responsive to an input signal to shift the phase of the first electromagnetic signal to produce a phase shifted first electromagnetic signal; and a mixer to mix the phase shifted first electromagnetic signal with a second electromagnetic signal to produce thereby for combining at least the influenced first electro-magnetic signal and a second signal to produce~~ a combined signal having a characteristic determined by the input signal, ~~indicative of the correct operation or otherwise of the detector device, wherein the characteristic of the combined signal corresponds to a change in a dc component of the combined signal; the change being responsive to the input signal.~~

2. (Original) A detector device as claimed in claim 1, in which the field-distorter is operable to change the phase of the first electro-magnetic signal.

3. (Canceled)

4. (Currently Amended) A detector device as claimed in claim [[3]] 1, in which the semi-conductor device, preferably, a diode.

5. (Previously Presented) A detector device as claimed in claim 1, further comprising a signal generator for generating the input signal.

6. (Previously Presented) A detector device as claimed in claim 1, further comprising a transceiver for transmitting and receiving electro-magnetic signals.

7. (Previously Presented) A detector device as claimed in claim 6, wherein the transceiver comprises at least one of a transmit antenna and a receive antenna for transmitting an electro-magnetic signal and receiving a received signal respectively; the received signal being derived from the transmitted electro-magnetic signal.

8. (Original) A detector device as claimed in claim 7, in which the first electro-magnetic signal is derived from the received signal.

9. (Original) A detector device as claimed in claim 7, in which the first electro-magnetic signal is derived from the transmitted signal.

10. (Previously Presented) A detector device as claimed in claim 7, in which the second signal is derived from the received signal.

11. (Previously Presented) A detector device as claimed in claim 7, in which the second signal is derived from an oscillator for generating the transmit signal.

12. (Previously Presented) A detector device as claimed in claim 1, further comprising a signal analyser for monitoring the characteristic of the combined signal to determine the correct operation or otherwise of at least one element of the detector device.

13. (Original) A detector device as claimed in claim 12, in which the at least one element is at least one of a mixer, transmitter, oscillator and receive portion.

14. (Previously Presented) A detector device as claimed in claim 1 wherein the field-distortor is configured to not radiate an electro-magnetic field in response to the input signal.

15. (Previously Presented) A detector device as claimed in claim 1, in which the field-distortor is arranged to radiate an electro-magnetic field in response to the input signal.

16. (Previously Presented) A detector device as claimed in claim 1, in which the field-distortor is spaced apart from the conductor without any physical connection therebetween.

17. (Previously Presented) A detector device of claim 2, in which the field-distortor comprises a semi-conductor device disposed adjacent to a first conductor for carrying the first electro-magnetic signal.

18. (Currently Amended) A motion detection system comprising
a detector device comprising at least a field-distortor comprising a semiconductor device and a conductor, disposed adjacent to the semiconductor device, responsive to an input signal, for influencing at least one characteristic to shift the phase of a first electro-magnetic signal to produce a phase shifted first electro-magnetic signal; and

a mixer for combining at least the influenced to mix the phase shifted first electro-magnetic signal and with a second electromagnetic signal to produce a combined signal having a characteristic determined by the input signal, indicative of the correct operation or otherwise of the detector device, wherein the characteristic of the combined signal corresponds to a change in a dc component of the combined signal; the change being responsive to the input signal.

19. (Currently Amended) A method of operating a detector device comprising at least one circuit element and a conductor bearing a first electro-magnetic signal; the circuit element being at least a field-distortor comprising a semiconductor device and a conductor disposed adjacent to the conductor the semiconductor device, for carrying responsive to an input

signal, for influencing at least one characteristic of a first electro-magnetic signal the semiconductor device being responsive to an input signal to shift the phase of the first electro-magnetic signal to produce a phase shifted first electro-magnetic signal; and a mixer for combining at least the influenced to mix the phase shifted first electro-magnetic signal and a second electro-magnetic signal to produce a combined signal having a characteristic determined by the input signal ~~motion detection device~~, indicative of the correct operation or otherwise of the detector device, wherein the characteristic of the combined signal corresponds to a change in a dc component of the combined signal; the change being responsive to the input signal; the method comprising:

applying a signal to the circuit element to vary the electrical or electromagnetic characteristics of the circuit element and thereby influence at least one characteristic of the first electro-magnetic signal; and

producing an output signal indicative of the degree of influence exerted on the first electro-magnetic signal.

20. (Previously Presented) A method as claimed in claim 19, in which the detector device comprising at least a field-distortor, responsive to an input signal, for influencing at least one characteristic of a first electro-magnetic signal; and a mixer for combining at least the influenced first electro-magnetic signal and a second signal to produce a combined signal having a characteristic determined by the input signal motion detection device.

21. (Canceled)

22. (Previously Presented) A detector device as claimed in claim 2, in which the field-distortor comprises a semi-conductor device disposed adjacent to a first conductor for carrying the first electro-magnetic signal.